

Limb length
discrepancy

Limb length discrepancy

limb-length discrepancy is when one leg or arm is shorter than the other leg or arm. The difference in length can range from a fraction of an inch to several inches.

Causes

- Malunion overlapping or angulation at the fracture site
- Loss of bone piece at the time of injury
- Bone compression at the cancellous bone end
- Damage or bone disease at the epiphyseal plate
- Reduced blood supply, e.g., post polio residual paralysis (PPRP)

- Lengthening: Increased vascularity at epiphyseal plate
- Congenital

Clinical features:-

- Limp during ambulation
- Cosmetic deformity
- Pain
- Postural deformity
- Abnormal gait

Classification of Leg Length Discrepancy

There are two types of limb length discrepancy

1. Anatomical

It is a osseous shortening of one limb it is a congenital condition.

2. Functional

Non-structural shortening. It is a unilateral asymmetry of the lower extremity without any shortening of the osseous components of the limb. FLLD may be caused by an alteration of limb mechanics, such as joint contracture, static or dynamic mechanical axis malalignment, muscle weakness, or shortening.

Causes

True LLD

- Idiopathic developmental abnormalities
- Fracture
- Trauma to the epiphyseal endplate prior to skeletal maturity
- Degenerative disorders

- Infections

Functional LLD

- Shortening of soft tissues
- Joint contractures
- Ligamentous laxity
- Axial malalignments
- Foot biomechanics (such as excessive ankle pronation)

Management

The non-surgical intervention is mainly used for the functional leg length discrepancies. It is also applied to the mild case of limb length discrepancy

Surgical Management

The surgical management induced slowing of growth by blockade of the epiphyseal plates around the knee joint, or leg lengthening with osteotomy and subsequent distraction of the bone callus with fully implanted or external apparatus.

Physiotherapy Management

- Stretching the muscles of the lower extremity.
- Shoe lifts these shoe lifts consist of either a shoe insert (up to 10-20mm of correction) or building up the sole of the shoe on the shorter leg (up to 30-60mm of correction). This lift therapy should be implemented gradually in small increments.